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Remarks

The Examiner has rejected each of claims 1-5 based upon 35 U.S.C. §103(a) and the Examiner's view that the claims are obvious over the combination of Critchlow et al. with Kormos et al.

Critchlow et al. shows an injector system for use in an MR shielded room, in which battery power is used for operation of the injector. The use of a battery 135 is clearly shown in Figs. 1 and 3 and in the text of the application at, for example, paragraph 28, line 6. Furthermore, Critchlow et al. shows extensive steps taken to avoid galvanic connections between regions external to the MR shielded room and the inside of that room, including the use of fiber optics to carry control signals through a tuned port in the shield of the room, a passive OTR link between the exterior and interior via an MR window, and a possible active RF link therebetween. Indeed, inspection of Fig. 1 of Critchlow et al. shows clearly that no galvanic connection exists between the injector system and the exterior of the room.

The Examiner has cited Uber, III et al., U.S. Patent Re.36,648, as relevant to Applicant's disclosure; the Uber patent is owned by Medrad, Inc., the same company that owns the Critchlow et al. patent. The Uber patent makes clear that electromagnetic transceivers or fiber optics are used to

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"maintain[] the integrity of the isolation barrier". See Uber III, et al., col. 3, lines 2-9. Thus, it is clearly the objective of the system described by Critchlow et al. to maintain the integrity of the isolation barrier and to not introduce galvanic connections outside the room.

Notwithstanding this clear disclosure that a battery is to be used to power an injector in an MR shielded room so as to avoid galvanic connections to the exterior of the room, the Examiner has asserted it would have been obvious to connect a remote power supply to the MR room as shown in Kormos et al., with the stated purpose of "reducing EMI noise".

Applicant respectfully disagrees. The motive of reducing MR noise would clearly lead away from penetrating the shield of the room to deliver power (or anything else) via a galvanic connection from outside of the room to the inside of the room. Indeed, such is the point of preserving the isolation barrier and using a battery instead of providing power from outside the room. Penetrating the shield and including galvanic connections raises a substantial risk of noise from external sources, as the connections can act as an antenna, channeling noise from outside the room to inside the room.

Applicant submits that the Kormos et al. disclosure of the use of external power would not be seen by those of ordinary

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skill in the art as an obvious combination with the disclosure of Critchlow et al. or Uber, III et al. as theses patents fundamentally disagree on this basic point of preserving the isolation barrier of the magnet room. Indeed, Applicant submits that the Examiner's proposed combination would be rejected for exactly the reason the Examiner asserts they would be combined; Kormos et al.'s power supply approach would be seen as too likely to introduce EMI noise, as compared to a battery.

For the reasons noted, Applicant submits that all claims are allowable over the prior art cited. However, Applicant further notes the allowability of claims 2 and 3-5 for an independent reason, namely that these claims recite the carriage of data signals to control the injector within the MR room, by the same connection or cable that carries power to the MR injector. As is apparent from the above discussion, neither Critchlow/Uber nor Kormos show data and power carried on a single connection from outside the room to inside the room:

Critchlow/Uber show only data signals carried from outside the room, and Kormos shows data and power carried on separate connections from outside the room to inside the room. Thus, even the Examiner's improper combination of Kormos with Critchlow would not lead to the claimed invention of claims 2-5 for the reason that the combination would create separate data and power

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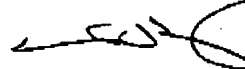
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connections, not a combined connection, as recited in these claims.

Applicant therefore request early transmission of a Notice of Allowability.

A petition for extension of time is incorporated in the transmittal of this communication. However, if any petition for extension of time is necessary to accompany this communication, please consider this paper a petition for such an extension of time, and apply the appropriate extension of time fee to Deposit Account 23-3000. If any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,



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